

The Hart's-Tongue in Tennessee in 1947

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The Tennessee station for the rare hart's-tongue is located in Marion County near the small city of South Pittsburg. For several years I had been hoping to revisit this station, not having been there since 1936 and I finally made the trip October 24, 1947. In my previous paper (1936), I said that the hart's-tongue had been known in Tennessee to scientists since about 1878. That is true of the South Pittsburg station, but at that time I failed to mention the Post Oak Springs station in Roane County mentioned by Augustin Gattinger in 1849 (Oakes 1932). There seems to be no other record for that station. When Pollard and Maxon visited there in 1900 (Maxon 1900) they found no plants. Tennessee botanists would like to learn that there is a specimen from Post Oak Springs in some herbarium. Through the Fern Journal and other publications we have a good record of the South Pittsburg station. The most recent paper is the fine one by Dr. Jesse M. Shaver (1945) with complete bibliography.

My recent trip, though tentatively planned in the summer as a joint trip with Dr. A. J. Sharp and others from University of Tennessee, rather suddenly took a different form. I knew that Mrs. Mary B. Henry, a well-known botanist of Pennsylvania, was planning to spend two days in Chattanooga, coming especially for the dedication of a tree to her in our new Elise Chapin Wild Life Sanctuary. On Wednesday, I learned that she would be available for a field trip on Friday. Hasty plans were made and she was invited to make the trip to visit the hart's-tongue; however, instead of saying that she made the trip with us, I might say more accurately that we made it with her, because she graciously agreed to take her car.

When we arose on Friday morning it was raining, and more rain was predicted. However, it brightened a little and we decided to make the trip as planned, although we knew that unless we could visit the locality about noon on a bright day we would be unable to see into the deep sink-hole. The party included Mrs. Henry, a young man who serves as her chauffeur and general helper in collecting plants, Dr. W. K. Butts, who is head of our Biology Department at University of Chattanooga, Bob Woodfin, a sophomore at the University and a resident of South Pittsburg, and me. When we reached South Pittsburg the sky had cleared and the sun shone beautifully during the most important part of our trip.

In South Pittsburg Mr. R. L. Lodge joined us. He and his father before him have done much to protect the hart's-tongue in Tennessee. In 1900, as a small boy he accompanied Dr. Maxon and Mr. Pollard, and with Mr. Pollard descended into the "sink." He seemed pleased to guide us on this trip though he told us he was no longer interested "in high places above deep holes." However, this time it was six-foot Bob who was elected to descend. He had heard of this famous sink-hole, but this was his first trip to it. His first view of a hart's-tongue was just before leaving Chattanooga, when he looked at some specimens in our herbarium. Not being particularly interested in plants, I'm sure he wasn't too impressed, but after a trip to the bottom of the sink, via a stout fifty-foot rope (a tow-rope from Mrs. Henry's car), I'm sure he will always have great respect for these ferns.

We parked our car near the cement plant at Richard City and began our three-quarter-mile climb. The first part is along the eastern hillside above Chitty's Creek, and, it being October, we were midst trees with colorful autumn foliage. Then we dropped into the creekbed,

which was quite dry, and clambered among the boulders until we reached the beech trees which are the signal to climb the west bank. This brings us within a few feet of the sink. The place looked somewhat different than I remembered it, partly because two trees have fallen across the opening. A large one which was growing on one of the ledges, down which water cascades so beautifully in the spring, completely bridges the hole from its northwest corner to the middle of the eastern rim. This fell several years ago and more recently another, smaller one, had fallen from the northeast and lies approximately at right angles to the first. These definitely hinder one from gaining a clear view of the lower ledges.

Our stout rope was anchored to a tree at the northwest corner of the rim and Bob reached the first ledge easily. Here, we had found a large hart's-tongue in 1935, but now there was none. The soil being wet and slippery, and the next drop more difficult, Bob made it minus his shoes and socks. It is rather precarious, because if one were to drop from the point directly below the logical point for the first one, there is simply no place to land. A few feet toward the south there is a good landing place, however, but it cannot be seen from the first shelf. Following directions from above, this descent was made successfully and Bob began his inspection of the lower shelf but seemingly to no avail. His mental picture was of fronds 8-10 inches long, blunt-tipped and with the ventral surface full of sori.

Finally, at the north end of the shelf where it suddenly meets the east wall, we saw something with a broader leaf than those of the large walking ferns which are there in some abundance. We could see them vaguely with our field glasses. Bob told us that there was just one plant with four leaves which were rather pointed and had no sori. I told him to bring the smallest leaf but I didn't feel encouraged. He made his way

across the floor of the sink and examined the ledge on the west side. He announced two plants there just like the one on the east. One of these was right at the north end of the ledge and at the end of a great north-south horizontal crack and almost under it, well protected and well sprayed with moisture from the falls. Each of these plants had four fronds, but now has three. Bob brought one from each plant in his shirt pocket. Had we been sure that these were hart's-tongues we would have taken no specimens.

The floor of the sink was examined toward the south. Here Mr. Graves had sown spores and here Dr. A. J. Sharp had counted twenty baby plants in 1935. These plants had been growing in the midst of a carpet of leafy liverworts which practically covered the floor. Liverworts still covers approximately one-third toward the east side. The rest of the floor is now a mass of small rocks suggesting a hard wash which precipitated all vegetation from that area into the pit at the north end of the sink.

When Bob was back on top and the specimens were in my hands, I was pleased. They were fronds of the hart's-tongue without doubt. The smallest from the smallest plant $2\frac{1}{2}$ inches, the larger ones about 4 inches long. It is impossible to know whether these are the remains of larger plants which somehow suffered the loss of their older, larger fronds and are starting anew or whether they are new plants. The report for the hart's-tongue in Tennessee in 1947 is not encouraging—only three small plants—but we will hope that these will persist. At least, there are still a few hart's-tongues left in Tennessee.

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Scott's Spleenwort in Connecticut

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According to the "Catalogue of the Flowering Plants and Ferns of Connecticut," published in 1910, two plants of this species had been found in the state prior to that date. Mr. J. S. Adams in 1876 found a plant in Canaan, which flourished until 1891; a second plant, at a different station in Canaan, was found by Mr. C. K. Averill in 1902.

Subsequently, as reported in the 1930 Supplement to this Catalogue, Scott's Spleenwort was found by Dr. Eames at a third station in Canaan and also in Kent, and in Brookfield by Dr. Eames and Mr. I. W. Starr. In this Supplement also, correction was made of the earlier reports of the finding of *Asplenium pinnatifidum* in Berlin, Southington, and Sharon; for preserved specimens of these plants, upon re-examination, were identified as unusual forms of *Asplenium ebenoides* R. R. Scott. On the basis of these findings it appears that in the last 70 years Scott's Spleenwort has appeared in six Connecticut towns—on limestone ledges in four towns in the northwestern part of the state, and on shale ledges in two towns in central Connecticut.

Early in November, 1945, Mrs. Harry L. Oppenheimer brought me a single frond of *Asplenium ebenoides* which she had picked from a plant on a shale ledge near her home in the western part of Suffield, Conn. A week later